

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1-35. (Canceled).

36. (Currently Amended) An electrode comprising:

a base metal formed of a cast metal;

a heater embedded in the base metal and arranged on a plane; and

at least one core metal plate embedded in the base metal and arranged

substantially parallel to the plane and adjacent to the heater,

wherein the heater and the core metal plate are cast in the base metal such

that the core metal plate is entirely surrounded by the base metal and is

entirely in metal-to-metal contact with the base metal, and

wherein a material forming the core metal plate has a rigidity higher than that

of a material forming the base metal[.]; and

the core metal plate has a plurality of through holes, which are filled with

the base metal so that the base metal above the core metal plate and the

base metal below the core metal plate are bound together via the base

metal filled in the through holes.

37. (cancelled)

38. (Currently Amended) The electrode according to claim ~~36~~<sup>37</sup>, wherein each of the through holes has a diameter ranging from about 0.1 mm to about 10 mm.

39. (Previously Presented) The electrode according to claim 36, wherein the core metal plate is made of stainless steel, and the base metal is made of aluminum.
40. (Previously Presented) The electrode according to claim 36, wherein the core metal plate has a thickness ranging from about 1 mm to about 2 mm.
41. (Previously Presented) The electrode according to claim 36, wherein said at least one core metal plate comprises two core metal plates arranged above and below the heater, respectively.
42. (Previously Presented) The electrode according to claim 36, wherein the core metal plate is disk-shaped.
43. (Previously Presented) The electrode according to claim 36, wherein the material forming the core metal plate has a softening temperature higher than that of the material forming the base metal
44. (Currently Amended) A plasma processing apparatus comprising:
  - a processing vessel;
  - the electrode as defined in claim 36[[1]]; and
  - a high frequency power source adapted to apply a high frequency voltage to the electrode.